BlackBerry Enterprise Server for MDS Applications

Version: 4.1 | Service Pack: 7

Upgrade Guide

BlackBerry

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Choosing a BlackBerry Enterprise Server upgrade option 1

Upgrading the BlackBerry Enterprise Server software by overwriting the existing version

The in-place upgrade process upgrades the BlackBerry® Enterprise Server software by replacing the existing version of the software.

Advantages	Disadvantages
• You do not require additional computers to perform this upgrade. • When the upgrade process completes, user accounts are active, and no additional administrative action is required.	• You cannot remove the BlackBerry Enterprise Server and return to the earlier version of the software automatically. • You must turn off the BlackBerry Enterprise Server during the upgrade process, so the interruption to services for BlackBerry devices lasts as long as it takes the upgrade process to complete.

When you use the in-place upgrade process, the following events occur:

- BlackBerry devices that are running BlackBerry® Device Software Version 4.0 or later receive new service books, and wireless data synchronization occurs.
- All BlackBerry devices receive new IT policies.

Upgrading the BlackBerry Enterprise Server by using a new computer

The cutover upgrade process installs the BlackBerry® Enterprise Server on a new computer and moves user accounts and server information from the old BlackBerry Enterprise Server to the new one.

Advantages	Disadvantages
• You can move user accounts back to the old BlackBerry Enterprise Server if you encounter any problems with the new one. • You can use new server hardware and start with a clean environment.	• You require one extra computer.

Advantages	Disadvantages
• Users experience minimal service interruptions because user accounts remain active on the old BlackBerry Enterprise Server until you start the new one.	• If you upgrade from a version earlier than BlackBerry Enterprise Server Version 4.0, the BlackBerry Enterprise Server takes longer to start than it did previously because it sends new service books to all of the BlackBerry devices that are capable of wireless data synchronization.

This upgrade process uses the same SRP credentials on both the old and the new BlackBerry Enterprise Server instances.

When you use the cutover process, the following events occur:

- BlackBerry devices that are running BlackBerry® Device Software Version 4.0 or later receive new service books, and wireless data synchronization occurs.
- All BlackBerry devices receive new IT policies.

Verify the BlackBerry Enterprise Server version from which you are upgrading

Perform this task to verify the version that you are upgrading from so that you can choose a supported upgrade process.

1. On the taskbar, click **Start > Settings > Control Panel**.
2. Double-click **Add/Remove Programs**.
3. Click **BlackBerry Enterprise Server**.
4. Click **Support Information**.

System requirements

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For information about calculating hardware requirements, visit www.blackberry.com/go/serverdocs to see the *BlackBerry Enterprise Server Capacity Calculator* and *BlackBerry Enterprise Server Performance Benchmarking Guide*.

System requirements: BlackBerry Enterprise Server

Item	Requirement
operating system	Any of the following operating systems: • Windows® 2000 SP4 Server or Advanced Server • Windows Server® 2003 or later • Windows Server 2003 or later (64-bit) • Windows Server 2003 R2 SP2 • Windows Server 2003 R2 SP2 (64-bit)
IMAP transactions	A messaging server with the following conditions: • can run an IMAP service • can send and receive IMAP transactions (by default, over port 143)
database management system	Any of the following database management systems: • MSDE 2000 SP3 • Microsoft® SQL Server® 2000 SP4 • Microsoft SQL Server 2005 SP3 • Microsoft SQL Server 2005 Express SP3 • Microsoft SQL Server 2005 SP3 (64-bit) For all versions of the Microsoft SQL Server that are earlier than Microsoft SQL Server 2005 SP3, visit http://technet.microsoft.com to read KB960082 and Microsoft Security Bulletin MS09-004.
collation setting	To support Microsoft SQL Server, the following conditions on the database server: • collation setting is default case-insensitive • BlackBerry Configuration Database collation setting is default case-insensitive
remote database conditions	named pipes and TCP/IP network protocols turned on

Item	Requirement
data access components	Any of the following data access components on the computers that host the BlackBerry Enterprise Server or the BlackBerry Configuration Database: • MDAC version 2.8 with Security Patch MS04-003 (version 2000.85.1025.00) • MDAC version 2.8.2 (version 2000.86.1830.00), included with Windows Server 2003 SP1
database conditions for the BlackBerry MDS Integration Service	A database server with the following conditions: • host for the BlackBerry Configuration Database • support for mixed-mode authentication
Microsoft® .NET Framework	to support languages other than English, localized version of Microsoft .NET Framework version 1.1 SP1
firewall	A firewall or proxy firewall with the following conditions: • support for the BlackBerry Enterprise Server to initiate an outgoing, two-way TCP/IP connection to an external server on port 3101 • support for the resolution of Internet addresses using DNS • transparency of the proxy server for proxy firewalls

System requirements: BlackBerry Attachment Service

The following system requirements apply when installing the BlackBerry® Attachment Service on a computer separate from the BlackBerry® Enterprise Server.

Item	Requirement
operating system	Any of the following operating systems: • Microsoft® Windows® 2000 SP4 (Server edition or Advanced Server edition) • Microsoft® Windows Server® 2003 SP1 • Microsoft® Windows® XP Professional SP2
media player	To support audio attachments, Windows Media® Player Version 9 or later
web browser	Microsoft® Internet Explorer® with the following settings: • Java® or JavaScript® turned on • language preferences configured to display encoded web pages

System requirements: BlackBerry Manager

The following system requirements apply when installing the BlackBerry® Manager on a computer separate from the BlackBerry® Enterprise Server.

Item	Requirement
operating system	Any of the following operating systems: • Windows® 2000 SP4 (Server, Advanced Server, or Professional) • Windows Server® 2003 or later • Windows Server 2003 or later (64-bit) • Windows Server 2003 R2 SP2 • Windows Server 2003 R2 SP2 (64-bit) • Windows® XP Professional SP2
Microsoft® .NET Framework	To support languages other than English, localized version of Microsoft .NET Framework version 1.1 SP1
browser	Microsoft® Internet Explorer® with the following settings: • Java® or JavaScript® turned on • language preferences set to display encoded web pages
data access components	Any of the following data access components: • MDAC version 2.8 with Security Patch MS04-003 (version 2000.85.1025.00) • MDAC version 2.8 SP2 (version 2000.86.1830.00)
printer and file sharing	To support BlackBerry device implementation, printer and file sharing turned on
USB hub	To support BlackBerry device implementation that uses a hub, a USB driver that supports USB 1.1-compliant hubs

System requirements: BlackBerry MDS Connection Service

The following system requirements apply when installing the BlackBerry® MDS Connection Service on a computer separate from the BlackBerry® Enterprise Server.

Item	Requirement
operating system	Any of the following operating systems:

Item	Requirement
	• Microsoft® Windows® 2000 SP4 (Server edition, Advanced Server edition, or Professional edition) • Microsoft® Windows Server® 2003 SP1 • Microsoft® Windows® XP Professional SP2
RSA® Authentication Agent	To support enhanced network authentication, RSA Authentication Agent Version 5.0 for Microsoft Windows

System requirements: BlackBerry MDS Integration Service

The following system requirements apply when installing the BlackBerry® MDS Integration Service on a computer separate from the BlackBerry® Enterprise Server.

Item	Requirement
operating system	Any of the following operating systems: • Windows® 2000 SP4 (Server or Advanced Server) • Windows Server® 2003 or later • Windows Server 2003 or later (64-bit) • Windows Server 2003 R2 SP2 • Windows Server 2003 R2 SP2 (64-bit)
database conditions	A database server that is the host for the BlackBerry Configuration Database.

System requirements: BlackBerry Router

The following system requirements apply when installing the BlackBerry® Router on a computer separate from the BlackBerry® Enterprise Server.

Item	Requirement
operating system	Any of the following operating systems: • Microsoft® Windows® 2000 SP4 (Server edition or Advanced Server edition) • Microsoft® Windows Server® 2003 SP1 • Microsoft® Windows® XP Professional SP2
firewall	A firewall or proxy firewall with the following conditions:

Item	Requirement
	• support for the BlackBerry Router to initiate an outgoing, two-way TCP/IP connection to an external server on port 3101 • support for the resolution of Internet addresses using DNS • transparency of the proxy server for proxy firewalls

System requirements for optional environments and features

Item	Description
virtual environment	The BlackBerry® Enterprise Server and the BlackBerry Enterprise Server components support the following virtual environments: • VMware® ESX Server version 2.5.2 or later • VMware ESX Server version 3.0.1 • VMware ESX Server version 3.5
enhanced network authentication	The BlackBerry Enterprise Server and its components support RSA® Authentication Agent version 5.0 for Windows®.
SNMP monitoring	The BlackBerry Enterprise Server and its components support the SNMP service.
remote access	The BlackBerry Enterprise Server and its components support remote access using any of the following applications: • Terminal Services for use with Windows Server 2000, installed using Remote Administration mode • Microsoft® Remote Desktop Connection for use with Windows Server 2003

Unsupported environments

Item	Description
DMZ	The BlackBerry® Enterprise Server and the BlackBerry Enterprise Server components, with the exception of the BlackBerry Router, do not support installation in a DMZ.
Microsoft® SQL Server® 2005 Express database	The BlackBerry MDS Integration Service databases do not support the Microsoft SQL Server 2005 Express database.

Setting up the database connection

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The BlackBerry® Enterprise Server can connect to the BlackBerry Configuration Database on the Microsoft® SQL Server® using Microsoft® Windows® authentication or database authentication. If you use Microsoft Windows authentication, the BlackBerry Manager logs in to the BlackBerry Configuration Database using the Microsoft Windows account that you used to complete the installation process.

If you use database authentication with Microsoft SQL Server, the BlackBerry Manager authenticates to the database using the database credentials that the administrator provides.

Specifying permissions when connecting to the BlackBerry Configuration Database using Microsoft Windows authentication

During the BlackBerry® Enterprise Server installation process, if you choose to connect to the BlackBerry Configuration Database using Microsoft® Windows® authentication, the Microsoft Windows account that you use must have permissions on the database server. The type of permissions depends on the BlackBerry Enterprise Server setup option that you choose, and on whether you create the BlackBerry Configuration Database on the same computer as the BlackBerry Enterprise Server or on another database server.

Specifying MSDE 2000 permissions for the Microsoft Windows account

If you install MSDE 2000 during the BlackBerry® Enterprise Server installation process, you do not need to specify additional permissions. When you select Microsoft® Windows® authentication during the BlackBerry Enterprise Server installation process, the setup application automatically assigns the required permissions to the Microsoft Windows account that you are using to complete the installation.

Assign Microsoft SQL Server permissions to the Windows account

Perform one of the following actions:

- If you create the BlackBerry® Configuration Database on the same computer as the BlackBerry® Enterprise Server, or if you install the BlackBerry MDS Integration Service, assign the system administrator permission to the Windows® account that you are using to complete the installation.
- If you create the BlackBerry Configuration Database on another computer, assign server administrator and database creator permissions to the Windows account that you are using to complete the installation process. If you are using Microsoft® SQL Server® 2005, assign the system administrator permission to each of the following roles: SQLAgentUserRole, SQLAgentReaderRole, and SQLAgentOperatorRole.

Configuring authentication to the BlackBerry MDS Integration Service database

If you install the BlackBerry® MDS Integration Service on a Microsoft® SQL Server®, the setup application uses the same authentication method and account that you specified for the BlackBerry Configuration Database. The account requires the same permissions for the BlackBerry MDS Integration Service database as it requires for the BlackBerry Configuration Database.

4 Upgrading the BlackBerry Enterprise Server software by overwriting the existing version

The in-place upgrade process upgrades the BlackBerry® Enterprise Server software by replacing the existing version of the software.

Advantages	Disadvantages
• You do not require additional computers to perform this upgrade. • When the upgrade process completes, user accounts are active, and no additional administrative action is required.	• You cannot remove the BlackBerry Enterprise Server and return to the earlier version of the software automatically. • You must turn off the BlackBerry Enterprise Server during the upgrade process, so the interruption to services for BlackBerry devices lasts as long as it takes the upgrade process to complete.

When you use the in-place upgrade process, the following events occur:

- BlackBerry devices that are running BlackBerry® Device Software Version 4.0 or later receive new service books, and wireless data synchronization occurs.
- All BlackBerry devices receive new IT policies.

Upgrade the BlackBerry Enterprise Server software

The upgrade process includes a restart of the computer.

1. Log into the computer using an administrative account with the appropriate database permissions.
2. Double-click **setup.exe**.
3. Complete the instructions on the screen.
4. When prompted to restart the computer, click **Yes**.
5. Log in to the computer using the same account that you used in step 1 to start the setup application.
6. Complete the instructions on the screen.
7. In the Microsoft® Windows® Services, start the BlackBerry® Enterprise Server services.
8. In the BlackBerry Manager, specify the proxy settings for the BlackBerry MDS Connection Service instances that you upgraded from Version 4.1 or Version 4.1 SP1.

Improve the startup performance of the BlackBerry Enterprise Server

After an upgrade, the BlackBerry® Enterprise Server might send new service books to every BlackBerry device. If it sends all the new service books at the same time, the BlackBerry Enterprise Server startup time might be affected. You can improve the startup performance of the BlackBerry Enterprise Server by configuring how many service books the BlackBerry Enterprise Server sends each hour.

1. On the computer that hosts an upgraded BlackBerry Policy Service, open the Registry Editor.
2. Perform one of the following actions:
   - If you are running a 32-bit version of Windows®, navigate to HKEY_LOCAL_MACHINE\Software\Research In Motion \BlackBerry Enterprise Server\IT Admin Server.
   - If you are running a 64-bit version of Windows, navigate to HKEY_LOCAL_MACHINE\Software\WOW6432Node \Research In Motion\BlackBerry Enterprise Server\IT Admin Server.
3. Create the following DWORD values:
   - **SBThrottlingEnabled**: Set to **1**.
   - **SBThrottleLimit**: Set, in decimal format, the maximum number of service books that you want the BlackBerry Enterprise Server to send each hour. The default number is .60, which means the BlackBerry Enterprise Server sends 60 new service books each hour.

Upgrading the BlackBerry Enterprise Server by using a new computer 5

The cutover upgrade process installs the BlackBerry® Enterprise Server on a new computer and moves user accounts and server information from the old BlackBerry Enterprise Server to the new one.

Advantages	Disadvantages
• You can move user accounts back to the old BlackBerry Enterprise Server if you encounter any problems with the new one. • You can use new server hardware and start with a clean environment. • Users experience minimal service interruptions because user accounts remain active on the old BlackBerry Enterprise Server until you start the new one.	• You require one extra computer. • If you upgrade from a version earlier than BlackBerry Enterprise Server Version 4.0, the BlackBerry Enterprise Server takes longer to start than it did previously because it sends new service books to all of the BlackBerry devices that are capable of wireless data synchronization.

This upgrade process uses the same SRP credentials on both the old and the new BlackBerry Enterprise Server instances.

When you use the cutover process, the following events occur:

- BlackBerry devices that are running BlackBerry® Device Software Version 4.0 or later receive new service books, and wireless data synchronization occurs.
- All BlackBerry devices receive new IT policies.

Prerequisites: Upgrading the BlackBerry Enterprise Server software

Item	Requirement
inactive user accounts	
credentials from the BlackBerry Enterprise Server installation media	• CAL key • SRP identifier • SRP key • SRP host
installation credentials from your environment	• unique IMAP account name and password

Item	Requirement
	• computer name and port number of the IMAP server that hosts the IMAP account • computer name and port number of the proxy server (optional)

Install BlackBerry Enterprise Server version 4.1 SP7 on the new computer

Note: To ensure your upgrade process completes successfully, do not upgrade your existing BlackBerry® Configuration Database.

The installation process includes a restart of the computer.

If you use a .pac file to configure the connection to the proxy server, you can specify that file after you complete the installation process.

1. Log in to the new computer using an administrative account with the appropriate database permissions.
   The setup application adds this account to the security administrator role in the BlackBerry Configuration Database automatically.
2. Double-click **setup.exe**.
3. Complete the instructions on the screen.
4. When prompted for the BlackBerry® Enterprise Server and the SRP credentials, perform one of the following actions:
   - In a BlackBerry Enterprise Server Version 3.6 environment, use the name and credentials from the primary instance.
   - In all other environments, use the same name and the same SRP credentials as one of the BlackBerry Enterprise Server instances that you want to replace.
5. When prompted to restart the computer, click **Yes**.
6. Log in using the same account that you used for the setup application in step 1.
7. Create or specify a new BlackBerry Configuration Database during the installation process.
8. Complete the instructions on the screen.
9. Before completing the installation process, clear the **Start Service(s)** option.

Move user accounts to the new BlackBerry Enterprise Server

1. On the BlackBerry® Enterprise Server that the user accounts are located on, open a command prompt.
2. Switch to the **Tools** folder on the BlackBerry Enterprise Server installation media.

If the transfer of user accounts was unsuccessful, check the log file for error messages.

Example

BESMigration tool parameters

Parameter	Description
-s <*MAPI profile*><*old server*><*new server*>	This parameter specifies the following MAPI information: • <*MAPI profile*>: The MAPI profile that you want to use when you move BlackBerry® Enterprise Server and user account information. • <*old server*>: The name of the BlackBerry Enterprise Server or instance that you are moving user accounts from. • <*new server*>: The name of the BlackBerry Enterprise Server that you are moving user accounts to.
-d <*DB server name*> <*DB name*>	This parameter specifies the computer name and the database name of the BlackBerry Configuration Database.
-l <*log file*>	This parameter specifies the name of the log file and the path to it.
-t <*status file*>	This parameter specifies the name of the status file and the path to it. The BESMigration tool uses the status file to track the progress of the transfer of user information. On subsequent transfer attempts, the tool reads this file to determine which user records are already located in the BlackBerry Configuration Database.
-w	This parameter writes status and progress information to the registry.
-u <*username*> <*password*>	If you are using database authentication, this parameter specifies the database user name and password.
-p	This parameter runs the tool in preview mode without making any changes to the BlackBerry Configuration Database.
-q	This parameter runs the tool silently.
-g	This parameter prints user properties that the tool retrieved from the user's mailbox to the migration log file, for troubleshooting purposes only.

Prevent the old BlackBerry Enterprise Server from connecting to the BlackBerry Infrastructure

If you try to connect two BlackBerry® Enterprise Server instances to the BlackBerry® Infrastructure using the same SRP credentials, the BlackBerry Infrastructure deactivates the credentials and wireless traffic cannot occur.

1. In the Microsoft® Windows® Services, stop all BlackBerry Enterprise Server services.

2. Change the startup type for all BlackBerry Enterprise Server services to **Disabled**.

Improve the startup performance of the BlackBerry Enterprise Server

After an upgrade, the BlackBerry® Enterprise Server might send new service books to every BlackBerry device. If it sends all the new service books at the same time, the BlackBerry Enterprise Server startup time might be affected. You can improve the startup performance of the BlackBerry Enterprise Server by configuring how many service books the BlackBerry Enterprise Server sends each hour.

1. On the computer that hosts an upgraded BlackBerry Policy Service, open the Registry Editor.
2. Perform one of the following actions:
   - If you are running a 32-bit version of Windows®, navigate to HKEY_LOCAL_MACHINE\Software\Research In Motion \BlackBerry Enterprise Server\IT Admin Server.
   - If you are running a 64-bit version of Windows, navigate to HKEY_LOCAL_MACHINE\Software\WOW6432Node \Research In Motion\BlackBerry Enterprise Server\IT Admin Server.
3. Create the following DWORD values:
   - **SBThrottlingEnabled**: Set to **1**.
   - **SBThrottleLimit**: Set, in decimal format, the maximum number of service books that you want the BlackBerry Enterprise Server to send each hour. The default number is .60, which means the BlackBerry Enterprise Server sends 60 new service books each hour.

Start the new BlackBerry Enterprise Server

1. In the Windows® Services, start the services for the BlackBerry® Enterprise Server components in the following order:
   - BlackBerry Controller
   - BlackBerry Router
   - BlackBerry Dispatcher
   - all remaining services
2. In the BlackBerry Manager, start the BlackBerry Enterprise Server and other BlackBerry Enterprise Server services.

After you finish: After you complete the upgrade process, if you moved user accounts to a new BlackBerry Domain, users must reactivate the BlackBerry devices. Instruct users to connect the BlackBerry devices to the BlackBerry® Desktop Manager to receive the new SRP routing and service name information.

Troubleshooting the BlackBerry Enterprise Server upgrade process 6

A third-party tool did not install and the BlackBerry Enterprise Server setup application closed

Possible solution

1. On the BlackBerry® Enterprise Server installation media, open the **Tools** folder.
2. Double-click the setup application file for the tool that you want to install.
3. Complete the instructions on the screen.
4. Restart the BlackBerry Enterprise Server setup application.

Previous version detected but no database available

This message appears when you start the setup application and the setup application stops responding.

Possible solution

The registry keys that identify your BlackBerry® Configuration Database must exist in the Microsoft® Windows® Registry.

1. On the computer on which you plan to upgrade the BlackBerry® Enterprise Server, open the Registry Editor.
2. In the left pane, navigate to HKEY_LOCAL_MACHINE\Research In Motion\BlackBerry Enterprise Server\Database.
3. Create the following case-sensitive string values (if they do not exist):
   - **DatabaseName**: Type the name of the BlackBerry Configuration Database.
   - **DatabaseServerMachineName**: Type the computer name of the database server.
4. Restart the setup application.

You cannot resolve errors that occur when you move users

Possible solution

1. Delete the user accounts from the BlackBerry® Enterprise Server before you start the upgrade process.
2. Add the user accounts to the BlackBerry Enterprise Server when the upgrade process completes.
3. Activate users' BlackBerry devices over the wireless network.

You encounter errors when you try to upgrade the BlackBerry Configuration Database

Possible solution

1. Navigate to C:\Program Files\Research In Motion\BlackBerry Enterprise Server\Logs\Installer or to the location of the log files that you specified in the setup application.
2. Open **DB_InstallV<*YYMMDDHHMMSS*>.log**, where *<YYMMDDHHMMSS>* specifies the date and time, in 24 hour clock format, that you upgraded the BlackBerry® Configuration Database.
3. Check the log file for error messages.

The setup application prompts you for access to the installation media for Microsoft .NET Framework version 1.1

When the BlackBerry® Enterprise Server setup application installs Microsoft® .NET Framework version 1.1 SP1 on a computer that hosts a previously installed version of Microsoft .NET Framework version 1.1, it prompts you for access to the installation media for Microsoft .NET Framework version 1.1.

Possible solution

You can access the netfx.msi file that is included with the BlackBerry Enterprise Server installation media.

1. On the BlackBerry Enterprise Server installation media, open the **Tools** folder.
2. Double-click the **netfx.msi** file.
3. Complete the instructions on the screen.

Restore a BlackBerry Configuration Database

If you created a copy of the BlackBerry® Configuration Database using the CreateDB tool, you can restore the copy if you determine that the upgrade process did not complete successfully.

1. In the Windows® Services, stop the BlackBerry® Enterprise Server services.
2. On the server that hosts the BlackBerry Configuration Database, open a command prompt window.
3. Change to *<extractedfolder>*\Tools.
4. Type **BlackBerryDBRestore.exe**.
5. Type the same parameters that you used when you backed up the BlackBerry Configuration Database.
6. Press ENTER.

Upgrading the BlackBerry Device Software

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If you want to make the new features of the BlackBerry® Enterprise Server available to your users, you can upgrade the BlackBerry® Device Software when you upgrade the BlackBerry Enterprise Server.

If you want to upgrade the BlackBerry Device Software, you can also choose to upgrade the BlackBerry® Desktop Software.

For more information about BlackBerry Device Software and BlackBerry Desktop Software, visit www.blackberry.com/support.

Permitting users to upgrade the BlackBerry Device Software at their computers

If you want users to upgrade the BlackBerry® Device Software at their computers, you can install the BlackBerry Device Software and the application loader tool on a network drive.

Advantages	Disadvantages
• You can automate the process for upgrading the BlackBerry Device Software so that users do not have to complete any upgrade tasks for BlackBerry devices that use a USB connection. • You can upgrade BlackBerry devices remotely.	• You cannot manage BlackBerry Device Software upgrades using software configurations. • You cannot make users upgrade the BlackBerry Device Software. • This upgrade process increases network traffic to the network drive.

This upgrade process only applies if users have one of the following desktop software versions:

- BlackBerry® Desktop Software Version 3.6 or later
- BlackBerry® Handheld Manager Version 3.6 or later

After the upgrade process completes, the application loader tool connects to the messaging server to provision the BlackBerry devices.

Upgrading the BlackBerry Device Software at a central computer

If you want to upgrade the BlackBerry® Device Software for users, or if you want users to upgrade their BlackBerry devices at a central computer, you can upgrade the BlackBerry Device Software at the central computer.

Advantages	Disadvantages
• You can monitor the software upgrade process at the central computer. • You can use software configurations to help control the software upgrades. • You can upgrade multiple BlackBerry devices at the same time. • You can upgrade BlackBerry devices for users who do not have the BlackBerry® Desktop Manager installed on their computers. • You can share a single software location among multiple central computers.	• You cannot make users upgrade the BlackBerry Device Software.

Pushing the BlackBerry Device Software and the BlackBerry Desktop Software to users' computers

You can use third-party applications to create a single upgrade file that contains the BlackBerry® Desktop Software and the BlackBerry® Device Software, and send the upgrade file to the computers of your BlackBerry device users. The application loader tool on the computers upgrades the BlackBerry Device Software on the BlackBerry device.

Advantages	Disadvantages
• You can install the BlackBerry Device Software and the BlackBerry Desktop Software on computers automatically. • You can set an IT policy to make users upgrade the BlackBerry Device Software.	• You must distribute large upgrade packages over your organization's LAN.

The upgrade file installs the BlackBerry Desktop Software and the BlackBerry Device Software on the computers of your BlackBerry device users. To upgrade the BlackBerry Device Software on their BlackBerry devices, users can connect their BlackBerry devices to their computers and start the BlackBerry® Desktop Manager.

This upgrade process applies when you upgrade from BlackBerry Device Software Version 3.5 or earlier.

Permitting users to upgrade the BlackBerry Device Software at their computers

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If you want users to upgrade the BlackBerry® Device Software at their computers, you can install the BlackBerry Device Software and the application loader tool on a network drive.

Advantages	Disadvantages
• You can automate the process for upgrading the BlackBerry Device Software so that users do not have to complete any upgrade tasks for BlackBerry devices that use a USB connection. • You can upgrade BlackBerry devices remotely.	• You cannot manage BlackBerry Device Software upgrades using software configurations. • You cannot make users upgrade the BlackBerry Device Software. • This upgrade process increases network traffic to the network drive.

This upgrade process only applies if users have one of the following desktop software versions:

- BlackBerry® Desktop Software Version 3.6 or later
- BlackBerry® Handheld Manager Version 3.6 or later

After the upgrade process completes, the application loader tool connects to the messaging server to provision the BlackBerry devices.

Configure a network drive

1. Share *<drive>*:\Program Files\Common Files\Research In Motion with read-only permissions.
2. Verify that the computers of BlackBerry® device users in your organization can access the network drive.
3. To decrease bandwidth over your organization's LAN, verify that the network drive is in close proximity to users.

Save the BlackBerry Device Software installation files to the network drive

Before you begin: Your service provider can provide you with the BlackBerry® Device Software installation media.

1. On the network drive, in the installation directory, create a folder that is named **Device**.
2. Save the required BlackBerry Device Software files to the folder.

Verify the version of the application loader tool

Perform this task to ensure that the application loader tool supports the new version of BlackBerry® Device Software.

1. On the network drive, navigate to *<drive>*:\Program Files\Common Files\Research In Motion\AppLoader.
2. Right-click **loader.exe**.
3. Click **Properties**.
4. On the **Version** tab, verify that **loader.exe** is Version 4.1 or later.

   If the version number for **loader.exe** is earlier than Version 4.1, visit www.blackberry.com/support/downloads to download BlackBerry® Desktop Software Version 4.1 or later.

Sending the BlackBerry Desktop Software or BlackBerry Device Manager installation files to users' computers

If BlackBerry® device users do not have the BlackBerry® Desktop Software installed on their computers, you can send the installation files for the BlackBerry Desktop Software or the BlackBerry® Device Manager to their computers.

You can distribute the installation files in one of the following ways:

- send the .msi file for the BlackBerry Device Manager to users' computers
- configure and send the BlackBerry Desktop Software installation file to users' computers, which installs the software and settings on users' computers automatically

Send the BlackBerry Device Manager installation file to users' computers

You can send the BlackBerry® Device Manager to users so that they can perform actions such as charging their BlackBerry devices, synchronizing organizer items through the BlackBerry Router, and upgrading the BlackBerry® Device Software at their computers.

Note: If you send the BlackBerry Device Manager installation file to computers on which the BlackBerry® Desktop Manager is installed, the BlackBerry Device Manager installation process removes the BlackBerry Desktop Manager automatically.

1. Download the installation file for the BlackBerry Device Manager from www.blackberry.com/support/downloads.
2. Copy the installation file that you downloaded to the shared network drive.
3. Send users an email message that includes the following information:
   - location of the installation file on the network drive
   - instructions to double-click blackberry device manager v4.1.msi

Send the BlackBerry Desktop Software installation file to users' computers

You can send users the BlackBerry® Desktop Software so that they can synchronize organizer data items and manage message forwarding at their computers.

Synchronizing wireless data automatically

When you upgrade the BlackBerry® Enterprise Server, the BlackBerry Synchronization Service sends service books to the BlackBerry devices that can synchronize data over the wireless network. For more information about which BlackBerry® Device Software versions cause wireless data synchronization to occur automatically, visit www.blackberry.com/support to read article KB04295.

Create the BlackBerry Device Software upgrade instructions for BlackBerry device users

Perform this task so that your users can upgrade the BlackBerry® Device Software.

1. Create an email message that includes the location of the application loader tool and specifies the following loading commands based on the type of connection that the BlackBerry device uses:
   - USB: *<shared computer name>*\Research In Motion\Apploader\loader.exe /defaultUSB /forceload
   - Serial: *<shared computer name>*\Research In Motion\Apploader\loader.exe
2. Consider providing the following instructions in the email message:
   - Connect your BlackBerry device to your computer.
   - Do not disconnect your BlackBerry device from your computer until the upgrade process completes.
   - If prompted, type your BlackBerry device password. Click **Next**.
   - If your BlackBerry device uses a serial connection, complete the instructions on the screen.

Confirming that the BlackBerry Device Software upgrade process completed successfully

Verify that the upgrade from BlackBerry Device Software Version 4.0 or later completed successfully

1. In the BlackBerry® Manager, in the left pane, click a BlackBerry® Enterprise Server.
2. In the **Users** list, click a user.
3. In the lower pane, verify the BlackBerry® Device Software version.

When you upgrade the BlackBerry Device Software, the version of the BlackBerry Device Software on the BlackBerry device does not update immediately in the BlackBerry Manager. You might have to wait for a short period of time while the BlackBerry Configuration Database synchronizes the version of the BlackBerry Device Software that displays in the BlackBerry Manager with the version of the BlackBerry Device Software that is installed on the BlackBerry device.

Instruct users to perform the following actions:

- On the BlackBerry® device, in the device options, click **About**.
- Confirm the version.

9 Upgrading the BlackBerry Device Software at a central computer

If you want to upgrade the BlackBerry® Device Software for users, or if you want users to upgrade their BlackBerry devices at a central computer, you can upgrade the BlackBerry Device Software at the central computer.

Advantages	Disadvantages
• You can monitor the software upgrade process at the central computer. • You can use software configurations to help control the software upgrades. • You can upgrade multiple BlackBerry devices at the same time. • You can upgrade BlackBerry devices for users who do not have the BlackBerry® Desktop Manager installed on their computers. • You can share a single software location among multiple central computers.	• You cannot make users upgrade the BlackBerry Device Software.

Configure a network drive

1. Share *<drive>*:\Program Files\Common Files\Research In Motion with read-only permissions.
2. Verify that the computers of BlackBerry® device users in your organization can access the network drive.
3. To decrease bandwidth over your organization's LAN, verify that the network drive is in close proximity to users.

Save the BlackBerry Device Software installation files to the network drive

Before you begin: Your service provider can provide you with the BlackBerry® Device Software installation media.

1. On the network drive, in the installation directory, create a folder that is named **Device**.
2. Save the required BlackBerry Device Software files to the folder.

Create a software configuration for the BlackBerry Device Software

Perform this task to help control the software upgrade process for each BlackBerry® device at a central computer.

1. In the BlackBerry Manager, in the left pane, click **BlackBerry Domain**.
2. On the **Software Configurations** tab, click **Add New Configuration**.
3. In the **Configuration Name** field, type a name for the software configuration.
4. In the **Device Software Location** field, click the **Change** button.
5. Navigate to the network location where you installed the BlackBerry® Device Software.
6. In the **Application Name** list, select the check box for the BlackBerry device series that you want to upgrade the BlackBerry Device Software for.
7. Expand the application tree.
8. Select the check boxes for additional components or applications that you want to install.
9. Click **OK**.

Assign the software configuration to a user

To monitor whether a user upgrades to BlackBerry® Device Software Version 4.0 or later, assign the user to the software configuration for the BlackBerry Device Software.

1. In the BlackBerry Manager, in the left pane, click a BlackBerry® Enterprise Server.
2. In the **Users** list, click the user account that you want to assign the software configuration to.
3. In the lower pane, click **Device Management**.
4. Click **Assign Software Configuration**.
5. Click a software configuration.
6. Click **OK**.

Upgrade the BlackBerry Device Software at a central computer

Before you begin:

- Verify that the central computer can access the network drive.
- To decrease bandwidth over your organization's LAN, verify that the network drive is in close proximity to the central computer.
- Verify that BlackBerry® Manager is installed on the central computer.

1. Connect the BlackBerry device to the central computer that hosts the BlackBerry Manager.
2. In the BlackBerry Manager, in the left pane, click **Ports**.

3. On the **Ports** tab, click the BlackBerry device that you want to upgrade the BlackBerry® Device Software for.
4. Perform one of the following actions:
   - To upgrade the BlackBerry Device Software automatically, click **Load Handheld**.
   - To upgrade the BlackBerry Device Software using the application loader tool, click **Load Handheld (Interactive)**.
5. Click a software configuration.
6. Click **OK**.
7. If you are using the application loader tool, complete the instructions on the screen.

Verify that the BlackBerry Device Software upgrade at a central computer completed successfully

1. In the BlackBerry® Manager, in the left pane, click a BlackBerry® Enterprise Server.
2. In the **Users** list, click a user.
3. In the lower pane, check for one of the following status messages:
   - **Upgrade Required**: the BlackBerry device has not yet been upgraded to the BlackBerry® Device Software specified in the assigned software configuration
   - **Up to date**: the BlackBerry device has been upgraded to the BlackBerry Device Software specified in the software configuration

   When you upgrade the BlackBerry Device Software, the version of the BlackBerry Device Software on the BlackBerry device does not update immediately in the BlackBerry Manager. You might have to wait for a short period of time while the BlackBerry Configuration Database synchronizes the version of the BlackBerry Device Software that displays in the BlackBerry Manager with the version of the BlackBerry Device Software that is installed on the BlackBerry device.

Pushing the BlackBerry Device Software and the BlackBerry Desktop Software to users' computers

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You can use third-party applications to create a single upgrade file that contains the BlackBerry® Desktop Software and the BlackBerry® Device Software, and send the upgrade file to the computers of your BlackBerry device users. The application loader tool on the computers upgrades the BlackBerry Device Software on the BlackBerry device.

Advantages	Disadvantages
• You can install the BlackBerry Device Software and the BlackBerry Desktop Software on computers automatically. • You can set an IT policy to make users upgrade the BlackBerry Device Software.	• You must distribute large upgrade packages over your organization's LAN.

The upgrade file installs the BlackBerry Desktop Software and the BlackBerry Device Software on the computers of your BlackBerry device users. To upgrade the BlackBerry Device Software on their BlackBerry devices, users can connect their BlackBerry devices to their computers and start the BlackBerry® Desktop Manager.

This upgrade process applies when you upgrade from BlackBerry Device Software Version 3.5 or earlier.

Configure a network drive

1. Share *<drive>*:\Program Files\Common Files\Research In Motion with read-only permissions.
2. Verify that the computers of BlackBerry® device users in your organization can access the network drive.
3. To decrease bandwidth over your organization's LAN, verify that the network drive is in close proximity to users.

Install the BlackBerry Device Software on the network drive

If you want to automate the BlackBerry® Device Software upgrade process and the provisioning process, you can install the application loader tool. The application loader tool installs as a component of both BlackBerry Device Software Version 4.1 and BlackBerry® Desktop Software Version 4.1.

Before you begin: Your service provider can provide you with the BlackBerry Device Software installation media.

1. Save the BlackBerry Device Software installation file to the network drive.
2. On the network drive, double-click the **.exe** file.
3. Complete the installation process.

4. Verify that the files are located at *<drive>*:\Program Files\Common Files\Research In Motion\Shared\Loader Files.
5. Save the BlackBerry Device Software installation file to other regional network drives and install it, if applicable, in your environment.

After you finish: To download BlackBerry Desktop Software Version 4.1, visit www.blackberry.com/support/downloads.

Save the BlackBerry Desktop Software installation file to the network drive

1. Download the BlackBerry® Desktop Software installation file from www.blackberry.com/support/downloads.
2. Save the installation file that you downloaded to the network drive.
3. If necessary, extract the installation files from the .exe file to the network drive.
4. On the network drive, open **setup.ini**.
5. At the bottom of **setup.ini**, type **[INSTALL_OPTIONS]**.
6. To add the installation settings, use **install.txt**, which is included with the BlackBerry Desktop Software installation files.
7. Save **setup.ini**.

Synchronizing wireless data automatically

When you upgrade the BlackBerry® Enterprise Server, the BlackBerry Synchronization Service sends service books to the BlackBerry devices that can synchronize data over the wireless network. For more information about which BlackBerry® Device Software versions cause wireless data synchronization to occur automatically, visit www.blackberry.com/support to read article KB04295.

Send the installation files for the BlackBerry Desktop Software and the BlackBerry Device Software to users using a third-party application

Perform this task so that you can upgrade the BlackBerry® Desktop Software and BlackBerry® Desktop Manager by pushing the software to user computers using a third-party application.

1. Package the customized BlackBerry Desktop Software and the BlackBerry® Device Software installation files using a third-party application for software packaging.
2. Send the installation files using a third-party application for software distribution.

After you finish: If you want to make sure that users upgrade the BlackBerry Device Software, set the Force Load Count IT policy rule and the Force Load Message IT policy rule. For more information, see the *BlackBerry Enterprise Server Policy Reference Guide*.

Confirming that the BlackBerry Device Software upgrade process completed successfully

Verify that the upgrade from BlackBerry Device Software Version 4.0 or later completed successfully

1. In the BlackBerry® Manager, in the left pane, click a BlackBerry® Enterprise Server.
2. In the **Users** list, click a user.
3. In the lower pane, verify the BlackBerry® Device Software version.

   When you upgrade the BlackBerry Device Software, the version of the BlackBerry Device Software on the BlackBerry device does not update immediately in the BlackBerry Manager. You might have to wait for a short period of time while the BlackBerry Configuration Database synchronizes the version of the BlackBerry Device Software that displays in the BlackBerry Manager with the version of the BlackBerry Device Software that is installed on the BlackBerry device.

   Instruct users to perform the following actions:
   - On the BlackBerry® device, in the device options, click **About**.
   - Confirm the version.

Troubleshooting

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When users click the link to the application loader tool in the upgrade instructions, the upgrade process does not start

Possible cause

The application loader might not be shared.

Possible solution

1. Connect a BlackBerry® device to a computer on which the BlackBerry Manager is installed.
2. At the command prompt, type **\\<*shared network drive*>\Research In Motion\Apploader\loader.exe**
3. If the application loader tool starts, the tool is shared successfully.

Glossary

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BlackBerry Domain
A BlackBerry Domain consists of the BlackBerry Configuration Database with its users and any BlackBerry® Enterprise Server instances that connect to it.

BlackBerry MDS
BlackBerry® Mobile Data System

BlackBerry Mobile Data Service
After you upgrade to BlackBerry® Enterprise Server Version 4.1 or later, the BlackBerry® Mobile Data Service name changes to the BlackBerry MDS Connection Service.

BlackBerry CAL
A BlackBerry® Client Access License (BlackBerry CAL) limits how many users you can add to a BlackBerry® Enterprise Server.

DMZ
A demilitarized zone (DMZ) is a neutral subnetwork outside of an organization's firewall. It exists between the trusted LAN of the organization and the untrusted external wireless network and public Internet.

DNS
Domain Name System

J2SE
Java® 2 Platform, Standard Edition

JRE
Java® Runtime Environment

LAN
local area network

MDAC
Microsoft® Data Access Components

MSDE
Microsoft® SQL Server® Desktop Engine

SNMP
Simple Network Management Protocol

SQL
Structured Query Language

SRP
Server Routing Protocol

XML
Extensible Markup Language

USB
Universal Serial Bus

Legal notice

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